Intervening to reduce depression after birth: a systematic review of the randomized trials

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CRD summary
This review assessed the effectiveness of non-pharmacological, non-hormonal interventions for postnatal depression. The authors concluded that postnatal counselling interventions for women diagnosed with depression or probable depression will reduce depression. The lack of a systematic assessment of study quality weakens the strength of the authors’ conclusions.

Authors’ objectives
To assess the effectiveness of non-pharmacological and non-hormonal interventions in reducing postnatal depression.

Searching
PubMed, EMBASE, PsycINFO, CINAHL, the Cochrane Database of Systematic Reviews and the Cochrane Controlled Trials Register were searched from 1980 (or inception if later) to March 2003 for studies reported in English or French; the search terms were reported. The reference lists of published articles and chapters were checked and recent proceedings of the Marce Society were searched. The UK National Research Register was searched for completed studies available as conference abstracts.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs), or quasi-RCTs using alternate allocation or assignment by time period, were eligible for inclusion. Other studies that described the development or process evaluation of the interventions, or reported additional details of study design and analysis, were also included.

Specific interventions included in the review
Studies of any non-pharmacological, non-hormonal interventions were eligible for inclusion. Studies that involved the woman’s partner or infant, and studies of reorganisation of maternity care in pregnancy, labour or during postnatal periods, were included if the primary or secondary aim was to reduce maternal depression. Group and individual interventions were included. The interventions could be conducted in hospitals, primary care or the community. The included interventions started in pregnancy, in labour, or after birth.

Participants included in the review
Studies of pregnant women, women in labour, or women in the year after birth were eligible for inclusion. Studies of women referred after earlier unsuccessful treatment for postnatal depression were excluded. Studies targeted different populations: universal (all women); selective (women at increased risk for depression); and indicated (women identified as depressed or probably depressed).

Outcomes assessed in the review
Studies that assessed depression or possible depression using diagnostic interview or other standard measures, or mean scores on validated depression scales, and reported changes from pre- to post-intervention were eligible for inclusion.

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The studies were assessed on the basis of the method used to select the participants, the method of randomisation, attrition, participation in the intervention, and losses to follow-up. The authors did not state who performed the validity assessment.
Data extraction
One reviewer extracted the data using a predesigned form. For each study, where possible, the proportion of women with the outcome was extracted for each intervention arm and used to calculate the relative risk (RR) and 95% confidence interval (CI).

Methods of synthesis
How were the studies combined?
The studies were grouped by timing of the intervention and the population targeted (universal antenatal, selective antenatal, indicated antenatal, interventions during labour, universal postnatal, selective postnatal, indicated postnatal, and interventions with mother and child), and combined in a narrative. Studies were also combined in fixed-effect and random effects meta-analyses if they reported depression or probable depression, if they compared the intervention with standard care or routine primary care, or if the control was an intervention perceived as placebo. Studies were excluded from the meta-analysis if they did not report a measure of depression or probable depression, if they presented only summary data, or of the intervention was with the woman's partner. The number-needed-to-treat (NNT) and 95% CI were calculated for meta-analyses showing statistically significant results.

How were differences between studies investigated?
Differences between the studies were discussed with reference to the type of statistical analysis and the characteristics of the sample.

Results of the review
Details of 42 studies were tabulated.

Universal antenatal: 5 studies were identified, including one cluster RCT that did not adjust the analysis for cluster randomisation and was excluded. The 4 included studies (one-to-one intervention and 3 midwifery care group interventions) showed no consistent benefit from the interventions.

Selective and indicated antenatal interventions: 8 studies were identified, but one had historical controls and was excluded. Only one study found the intervention (indicated antenatal) reduced major antenatal depression, but the drop-out rate was high, the participation rate was low, and the women lived in very adverse social situations. Other studies found no significant benefit from the intervention.

Interventions during labour: 4 studies of doula or support nurse care were identified. One study found a short-term benefit that was not sustained. The other 3 studies found no benefits from the interventions.

Universal postnatal interventions: 6 studies were found. The results were mixed. Two studies showed benefit: one found a large benefit from midwife-led listening and discussion after birth, but the control group had high anxiety levels and the results may not generalise; the other study found that embedding a relatively intensive intervention in existing community-based midwifery postnatal service had a large positive effect on the mental health score. Four studies showed no effect of interventions; these included one large study (n=1,745) that found no significant difference between debriefing after labour in comparison with usual care.

Selective postnatal interventions: 4 studies were found. The interventions were diverse. Three studies found some benefits from interventions: one study found large benefits 4 to 6 weeks after a postscreening psychological intervention; one found short-term benefits from intensive home-visiting that were not sustained at 4 months; and one found reduced depression with telephone-based peer support. One study found no benefit from debriefing.

Indicated postnatal interventions: 11 studies were identified. Six counselling interventions showed consistent and sustained reductions in measures of depression. One study found benefits with counselling plus fluoxetine versus counselling alone. Three group interventions found mixed results: 2 studies found some benefit from peer support, while the other found no sustained difference between massage and relaxation.

Interventions with mother and child: 4 studies were found. Two studies found no effect for interventions that focused
on the mother-child interaction. One study showed some benefit from baby massage plus support group, but it had methodological limitations. The other study showed no consistent effect for an intervention aimed at improving infant sleep patterns.

Meta-analyses showed that only indicated postnatal interventions significantly reduced postnatal depression (7 studies; fixed-effect RR 0.53, 95% CI: 0.44, 0.64). No statistically significant heterogeneity was detected (P=0.20). The funnel plot suggested the possibility of publication bias.

Postnatal counselling interventions significantly reduced postnatal depression (5 studies; random-effects RR 0.46, 95% CI: 0.32, 0.67). Statistically significant heterogeneity was detected (P=0.068). The NNT with postnatal counselling in women diagnosed as depressed was 3 (95% CI: 2, 4).

**Authors' conclusions**
Postnatal counselling interventions for women diagnosed with depression or probable depression will reduce depression.

**CRD commentary**
The review question was clear in terms of the study design, intervention, participants and outcomes. Several relevant sources were searched and attempts were made to minimise publication and language bias. The methods used to select the studies were not described, so it is not known whether any efforts were made to reduce errors and bias. Only one reviewer extracted the data and this lack of duplication may have led to errors and bias. Validity was assessed using established criteria, but the results were not reported in the paper and only some methodological limitations of the studies were discussed. It was unclear which were the randomised and which were the quasi-randomised studies. Quality was not consistently taken into account in the narrative synthesis, and was not considered at all in the meta-analyses. The evidence appears to support the authors' conclusions, but the strength of the evidence is weakened by the lack of a systematic assessment of study quality.

**Implications of the review for practice and research**
Practice: The authors stated that postnatal counselling will reduce measures of depression in women with depression or probable depression. No recommendations could be made for continuity of care in labour, support in labour or postnatal debriefing by a midwife, or interventions to improve mother-child interactions.

Research: The authors stated that future studies should be adequately powered, with sample sizes adjusted to account for probable attrition and losses to follow-up and taking account of within-group effect in the design and analysis. Studies should measure child health and development outcomes. Future research should also consider the criteria suggested by McLennan and Offord in deciding which proposed aims and programmes should be examined in large-scale trials (see Other Publication of Related Interest). They also stated that interventions that can be incorporated into existing maternity and community services are a priority, as are economic evaluations of interventions.

**Bibliographic details**

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15209173

**Other publications of related interest**
Subject indexing assigned by NLM

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**Record Status**
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.